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*The  
Connecticut  
Agricultural  
Experiment  
Station,  
New Haven*

Analysis of  
Agricultural Feeds  
and Pet Foods  
1998

BY MARY JANE INCORVIA MATTINA

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During the period January 1, 1998 to December 31, 1998 the Department of Analytical Chemistry at The Connecticut Agricultural Experiment Station analyzed 154 feed samples. Nine different manufacturers were represented in this group of samples, which included products for commercial agricultural operations as well as pet foods. The samples were collected by Alton VanDyke and John Schneider of the Connecticut Department of Agriculture. The analyses were performed by Craig Musante and Mamie Pyles under the supervision of Dr. David Stilwell.

The products were analyzed to determine that the label guarantees are in compliance with State of Connecticut regulations. A product is found to be "unsatisfactory" if the found value of a parameter differs from the label guarantee using the percent analytical variation guidelines recommended by the Association of the American Feed Control Officials. In the Tables are listed the label guarantee for the macronutrients in the product, the results of the proximate analysis for each sample, and results of the analyses for micronutrients. The chemical symbols for the micronutrients are as follows: calcium, Ca; phosphorus, P; magnesium, Mg; potassium, K; copper, Cu; zinc, Zn; selenium, Se; sodium, Na. Values are given in percent unless otherwise noted. A deficiency in a guaranteed ingredient is indicated by a minus (-) sign next to the found parameter. An excess of a substance is indicated by a plus (+) sign next to the found value. Of the 154 samples analyzed, 31 samples were found to be deficient in one or more macronutrients (20.1%) and 37 samples were unsatisfactory in one or more micronutrients (18.8%).

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Table 1. Results of Analysis of Feed Samples.

Manufacturer/Sample description	Protein		Fat		Fiber	
	%G	%F	%G	%F	%G	%F
<b>AGWAY, INC.</b>						
Agway Egg Layer Crumbles	16	16.1	3	3.04	4	2.53
Agway Hog Feed	14	13.5	3.5	0.44-	5	2.51
Agway Hi Energy Lamb Medicated Feed	16	16.3	3.5	0.9-	9	7.19
Agway Sow & Pig T-40	16	16.4	3	1.5-	5	3.02
Agway Dairy 16	16	15.7	2.5	4.17	12	10.4
Agway Maintenance Horse Feed 11% Protein Pellets	11	11.7	3	3.35	10	7.55
Agway Recreational Horse Feed 12% Protein Pellets	12	11.7	3.5	3.33	8	4.96
Agway Pelleted Complete Horse Feed	12	12.4	3	3.16	20	12
Agway Performance Horse Feed 14% Pellets	14	13.9	4	3.83	10	6.63
Agway Llama Pellets	13	13.2	2.5	2.66	17	14.5
Agway Bunkmix	25	21.4-	4.5	1.82-	6.2	6.54
<b>AMERICAN CRYSTAL SUGAR CO.</b>						
Crystal Sugar Dried Beet Pulp	6	7.6	0.3	0.81	22	18.4
<b>BEST FEEDS</b>						
Joy Dog Food-Maintenance	21	22.1	8	7.43	5	3.49
Joy Special Meal Dog Food	26	29.1	10	10.3	4	3.5
<b>BLUE SEAL FEEDS, INC.</b>						
Blue Seal Contender Horse Feed Pellets	16	16.1	3	4.9	7.5	5.9
Blue Seal Trotter Complete Pellets	14	14	2	1.8	20	11
Blue Seal Demand Horse Pellet with High Fat	16	16.7	6.5	4.22	6.5	5.01
Blue Seal Vintage Senior Horse Feed	14.5	17.1	4.5	4.1	12	7.8
Blue Seal Strider Horse Feed Pellets	11	11.9	2.5	0.37-	7	5.36
Blue Seal Sunshine Plus	25	24.5	2	2.3	4	3
Blue Seal Milk-Maker 16	16	16.4	2	2.91	11	6.69
Blue Seal Natural 26 Dog Food	26	25.4	12	12.5	4	2.03
Blue Seal Pacer Horse Feed	12	13.8	2.5	1.43-	9	5.98
Blue Seal Milk-Maker 20	20	20.6	2	1.3-	11	7.89
Blue Seal Krunchies Dog Food	21	20.9	10	10.7	4	2.29
Blue Seal Fat & Finish Pellets	18	16.7-	4.5	5.58	3.5	2.47
Blue Seal Horse Hay Stretcher LPEL	11.5	12.3	2	2.01	20	16.9
Blue Seal Pig & Sow Pellets	15	15.8	3	2.85	7	3.98
Blue Seal Calf BT Starter	19	20.1	2.5	1.16	8	6.74
Blue Seal Egg Maker Crumbles	17	16.6	3	3.8	4	2.49
Blue Seal Game Bird	20	20.3	4.5	4.66	4	2.86
Blue Seal Lamb BT Pellets, Medicated	18	17.4	2.5	4.49	7	3.57
Blue Seal Llama Pellet	14	14.5	2.5	3.74	12.5	8.78
<b>CARGILL, NUTRENA DIV.</b>						
Nutrena Horse Kwik Complete	14	13.5	2	2.3	20	17.1
Nutrena Life Design Complete (ABF)	14	16.6	6	5.24-	8	7.58
Nutrena Triumph 12 Horse Pellets (ABF)	12	13.1	2.5	2.96	10	10.3
Nutrena Egg Producer	16	16.1	3	3.2	4.5	5
Nutrena Horse Kwik 12.5% Ration (ABF)	12.5	13.6	2	2.9	20	15.3
Nutrena Life Design Prime 12 (ABF)	12	13.9	3	3.5	15	13.1
Nutrena Pig & Hog Feed (ABF)	15	15.1	2.5	3.6	7	5.8

Table 1. Results of Analysis of Feed Samples.

Manufacturer/Sample description	Protein		Fat		Fiber	
	%G	%F	%G	%F	%G	%F
Nutrena Cracked Corn	8	6.7-	3	2.9	3	1.7
Nutrena Turkey/Gamebird Grower	22	22.1	3	4	6	5.2
Nutrena Original Chunks Dog Food	21	21.6	8	8.95	3.5	2.98
Nutrena Top Lamb 16 Feed (ABF), No Added Copper	16	15.6	2	2.9	11	11
Nutrena Race Horse Crimped Oats	10	8.5-	3.5	6.2	11	12
Nutrena Life Design Youth (ABF)	16	16.3	4	3.9	7	4.9
Nutrena Senior Horse Feed (ABF)	14	14.8	5	4.6	16	13.1
Nutrena Excel 16 Dairy Feed (ABF)	16	16.9	2.5	3	10	9.8
Nutrena Vitality Gold 14% Horse Feed (GF)	14	13.8	9	8.9	8	5.5
Nutrena Scratch Feed	8	8	3	3	5.5	5.4
Nutrena 18% Rabbit Pellets	18	17.7	2.5	2.8	19	16.9
Nutrena 16% Rabbit Pellets	16	15.2-	2.5	2.7	16	13.9
Cargill Milk-Plus (ABF)	28	28.4	3	3.9	3	2.55
Nutrena Song and Soar Wild Bird Seed	10	10.4	3	7.6	10	6.1
Nutrena Life Design Complete (ABF)	14	18.1	6	5.5	8	7
Nutrena Horse Kwik Ration (ABF) with Roughage	14	13.5	2	2.4	20	14
Nutrena Turkey/Gamebird Grower	22	21.6	3	3.3	6	5
Nutrena Egg Producer	16	16.4	3	3.2	4.5	4.2
Nutrena 16% Rabbit Pellets	16	15.3-	2.5	2.8	16	14.3
Nutrena Excel 16 Dairy Feed (ABF)	16	18.1	2.5	3.1	10	8.5
Nutrena Pig & Hog Feed (ABF)	15	15.6	2.5	3.5	7	5.4
Nutrena Senior Horse Feed (ABF)	14	15.3	5	4.5	16	12.3
Nutrena Triumph 12 Horse Pellets (ABF)	12	12.2	2.5	2.7	10	11
Nutrena Life Design Prime 12 (ABF)	12	13	3	2.61-	15	14.8
Nutrena Meat Bird Grower	21	21.3	3.5	4.1	5	4.2
Nutrena Top Lamb 16 (ABF)	16	16.7	2	3.8	11	10.4
Nutrena Life Design Complete (ABF)	14	17.3	6	5.7	8	8.1
Nutrena Turkey/Gamebird Finisher	15	14.6	3	4.1	8	6
Nutrena Sing & Soar Ultra Bird Seed	13	11.7-	10	17.2	16	9.57
River Run Professional Formula Dog Food	27	28	18	19.2	4.5	3.88
Cargill Quality Plus Value Pack Hi-Pro Dog Food	26	26.3	8	10.2	4.5	3.66
Cargill Dairy 16%	16	15.5	4.04	4.35	7.86	5.02
Cargill Pullet Grower with Amprol	16	16.1	3.26	3.62	2.77	2.4
Cargill Prelayer M&M Weeks	15.5	15.5	3.5	4.1	3.71	2.98
Cargill Layer A-22 M&M	15.25	16.8	2.8	3.03	2.91	2.79
Cargill Horse 14% Sprinter	14.7	14.1-	3	3.68	7.53	6.35
Cargill Layer A-22 M&M	15.25	15.9	2.8	3.17	2.41	2.49
Cargill Special Mix	34	29.8-	4.15	3.87	4.32	4.42
Cargill Layer B-22 M&M	15	15.9	3.09	3.16	3.06	2.9
Nutrena Horse Kwik Ration (ABF) (With Roughage)	14	14.75	2	2.35	20	14.3
Nutrena Life Design Complete (ABF)	14	15.4	6	6.58	8	7.67
Nutrena Triumph 12 Horse Pellets	12	12.4	2.5	2.48	10	9.11
Nutrena Horse Kwik 12.5% Ration (ABF)	12.5	13	2	2.64	20	13.9
Nutrena Egg Producer Pellets (ABF)	16	16.56	3	2.01-	4.5	4.65
Nutrena Pig Starter Pellets (BMD30) (ABF)	18	19.6	3.5	5	4	4.45
Nutrena Turkey/Pheasant Starter Crumbles (BSV)	28	28.2	3.5	4.45	5	3.75
Nutrena Turkey/Gamebird Grower Crumbles (ABF)	22	21.6	3	5.54	6	6.17
Nutrena Pig & Hog Feed (ABF)	15	15.1	2.5	6.71	7	6.92

**Table 1. Results of Analysis of Feed Samples.**

Manufacturer/Sample description	Protein		Fat		Fiber	
	%G	%F	%G	%F	%G	%F
Nutrena Life Design 12 (ABF)	12	15.1	3	3.54	15	12.1
Nutrena Life Design Senior Horse Feed (ABF)	14	15.2	5	5.13	16	14.1
Nutrena Excel 16 Dairy Feed (ABF)	16	15.1-	2.5	3.55	10	10.3
Nutrena Top Lamb 18 (B13.6) (ABF) Medicated	18	17.7	2	2.16	10	9.63
Nutrena Chick Starter (ABF) Medicated	20	21.45	3	4.75	4	4.01
Nutrena 18% Rabbit Pellets (ABF)	18	18.7	2.5	2.3	19	15.7
Nutrena PRIZE Performance Plus (ABF)	12.5	13.3	2.5	4.32	12	8.54
Nutrena Life Design Youth (ABF) Horse Feed	16	16.6	4	5.26	7	6.71
Nutrena Cracked Corn	8	8.7	3	5.5	3	1.62
Nutrena Scratch Feed (ABF)	8	8.7	3	3.25	5.5	5.55
<b>CENTRAL CONNECTICUT COOP</b>						
Central Heifer Pellet	15	16.2	3.5	5.7	16	15.1
Central 24% Co-Ag Pellets	24	23.1-	3	5.53	8.5	9.3
Central Co-Op 22% Ruminator	22		3.25		8.5	
<b>DIAMOND PET FOODS</b>						
Diamond Dog Food Premium Adult	26	24.6-	18	19.1	3	1.76
Diamond Dog Food, Professional	30	30.95	20	18.6	3	2
<b>HILLS PET NUTRITION, INC.</b>						
Hill's Science Diet Light Formula Feline Maintenance		37.3		8.62		5.85
Hill's Science Diet Canine Maintenance 1-6 years	21.5	22.6	13	12.5	3	1.63
<b>IAMS CO.</b>						
Iams Dog Food	20	19.9	10	11.1	5	2.38
Iams Minichunks Dog Food	26	26.5	15	15.2	5	2.66
Iams Premium Dog Food for Normally Active Dogs	26	25.6	15	15.6	5	1.75
<b>KAYTEE PRODUCTS, INC., BAY-MOR DIV.</b>						
Bay-Mor PC-700 Pigeon Feed	10	10.4	2	2.1	3	2
<b>L/M ANIMAL FARMS</b>						
L/M Parrot Food	16	15.8	16	13.6-	30	9.5
<b>LUCENNE FARMS</b>						
Dengie Alfa-A	15	16.5	1	2.6	25	25.8
<b>NATURE'S RECIPE PET FOODS</b>						
Nature's Recipe Maintenance Lamb Meal & Rice	20	20.9	10	11.7	4	2.15
<b>NEW ENGLAND FEEDS/WILD BIRD FOOD CO.</b>						
North Eastern's Finest Wild Bird Food	10	9.91	2	8.54	4.6	4.7
<b>PMI FEEDS, INC.</b>						
Mazuri Llama Diet High Fiber	14	13.8	1.5	2.7	25	20.2

Table 1. Results of Analysis of Feed Samples.

Manufacturer/Sample description	Protein		Fat		Fiber	
	%G	%F	%G	%F	%G	%F
<b>PRO-PET, INC./NY</b>						
Big Red Producers Choice 18 Rabbit Pellets	18	17.6	2	2.74	12	13.8+
Muenster Perfect Balance Emu Grower 18%	18	18.2	5	3.12-	7	5.24
Muenster Perfect Balance Ratite Maintenance	15	16	2.75	2.12-	11	9.54-
Pardner Dog Food	21	21.2	7	6.62	5.5	4.35
Big Red Rabbit Choice Rabbit Food	15	16.1	2	2.53	15	15.9
Big Red Guinea Pig Food	18	18.4	4	4.8	15	13.7
Big Red Great Gravy Dog Food	21	20.8	8	8.75	5	3.13
Big Red Nuggets Dog Food	21	21.2	8	9.65	5.5	3.04
Li'l Red Original Flavor Cat Food	31	31.4	10	10.7	3	2.01
<b>PURINA MILLS, INC.</b>						
Purina Duck Grower W/O	16	17.4	3	3.6	5	3
Purina Animax	28	27.3	3	2.4-	6	3.08
Purina Equine Senior	14	14.31	4	3.72	16	16.6
Purina Pure Pride 100	10	11.9	2.5	1.86-	12	11
Purina Equine Adult Horse Feed	12	13.3	3	3.14	25	23.9
Purina Advanced Nutrition Rabbit Feed	16	16.1	3.5	4.41	15	15.9
Purina Pure Pride 200	14	13.5	2.5	1.6-	8	6.59
Purina Equine Junior Horse Feed	14.5	14.9	4.5	4.59	15	11.3
Purina Game Bird Maintenance Chow	12.5	10.6-	2.5	3.1	10	3.93
Purina Pro-11 Breeder for Pigeons	11	11.5	2	2.43	3	2.72
Purina Pigeon Chow Checkers	15	14.6	2.5	2.88	5.5	4.31
Purina Game Bird Flight Conditioner	19	17.8-	2	3.67	12	5.22
Purina Start & Grow MP 0.0125%	17	16.6	3	3.3	5	3.6
Purina Turkey Starter MP 0.0125%	26	26.4	3	3.7	5.5	2.7
Pro-Plan Lamb & Rice Formula	25	26.9	15	16	3	2
Purina Wildlife Blend	12	12.5	2	3.5	16	10.2
Purina Rabbit Chow	16	15.9	1.5	2.4	20	17
Purina Dealers Pride Adult Dog Food	17	19	6	9.19	8	2.78
Purina Layena Crumbles	16	15.5	2.5	3.1	7	5.9
Purina Meow Mix	31	31.4	8	7.4	4	1.8
Purina Hog Grower Chow OTC 50	16	16.5	2.5	3.53	5	4.15
Purina Meat Builder	20	18.3-	3	4.9	5	4.9
Purina Coarse 14%	14	16	2	3.3	15	13.5
Purina Lamb Developer W/O	12	11.8	1.5	2.07	18	14.8
Purina Rabbit Chow Complete Blend	16	15.6	1.5	2.9	20	15.4
Purina Milk Chow Special (R) 16% Coarse	16	15.6	2	3.9	9	5.1
Purina Aquamax Grower 600	41	42.3	12	12.9	4	1.77
<b>SKY BIRD SEED</b>						
Sky Bird Licorice Delight	15	14.1-	19	22.5	12	14+
<b>SUNFLOWER, INC.</b>						
Feathered Friend Favorite Wild Bird Food	10.5	9.83-	4	5.69	8	5.34
Feathered Friend Birdsnack	11	12	6	11.1	10.5	7.34

**Table 1. Results of Analysis of Feed Samples.**

Manufacturer/Sample description	Protein		Fat		Fiber	
	%G	%F	%G	%F	%G	%F
<b>TIZCO, INC.</b>						
Tiz Whiz 12% Horse Feed	12	12.9	3	2-	6	3.21
Tiz Whiz 12% Horse Feed for Horses 3 Years & Older	12	12.6	3	4.07	6	4.92
<b>TRADE ONE, INC.</b>						
Triple Crown Rice Bran	12.5	13.2	20	18.3	11	7

Table 2. Micronutrient Analysis of Feed Samples.

Manufacturer/Sample description	Ca	P	K	Cu	Zn	salt	Se	Na
<b>AGWAY, INC.</b>								
Agway Egg Layer Crumbles	3.61	0.68				0.59+		0.23
Agway Hog Feed	0.79	0.53			76ppm	0.79+	0.54ppm	0.31+
Agway Hi Energy Lamb Medicated Feed	1.66	0.59				0.69	0.73ppm	0.27
Agway Sow & Pig T-40	0.93	0.73			100ppm	0.61+	0.6ppm	0.24
Agway Dairy 16	1.5+	0.87					1ppm	
Agway Maintenance Horse Feed 11% Protein Pellets	0.82	0.59			86ppm		0.76ppm	
Agway Recreational Horse Feed 12% Protein Pellets	0.97	0.61		19ppm	116ppm		0.9ppm	
Agway Pelleted Complete Horse Feed	0.76	0.52		17ppm	75ppm		0.43ppm	
Agway Performance Horse Feed 14% Pellets	0.79	0.74		47ppm	148ppm		0.85ppm	
Agway Llama Pellets	1.17	1				1.76+		0.71
<b>BLUE SEAL FEEDS, INC.</b>								
Blue Seal Contender Horse Feed Pellets	0.73	0.86		32ppm	119ppm		0.68ppm	
Blue Seal Trotter Complete Pellets	0.84	0.82		28ppm	109ppm		0.74ppm	
Blue Seal Demand Horse Pellet with High Fat	0.86	0.72		41ppm	126ppm		0.71ppm	
Blue Seal Vintage Senior Horse Feed	0.85	0.9		43ppm	168ppm		0.85ppm	
Blue Seal Strider Horse Feed Pellets	0.72	0.75		36ppm	120ppm		0.70ppm	
Blue Seal Sunshine Plus	0.59	0.55	1.26	12ppm	120ppm	0.84	2.68ppm	
Blue Seal Milk-Maker 16	0.91	0.89					0.97ppm	
Blue Seal Natural 26 Dog Food								
Blue Seal Pacer Horse Feed	0.61	0.66		22ppm-	97ppm		0.35ppm	
Blue Seal Milk-Maker 20	0.90	0.76					0.77ppm	
Blue Seal Fat & Finish Pellets	0.95	0.54				0.38		
Blue Seal Horse Hay Stretcher LPEL	0.6	0.53						
Blue Seal Pig & Sow Pellets	1.06	0.58			93ppm	0.64	0.69ppm	
Blue Seal Calf BT Starter	0.80	0.73				0.91	0.73ppm	
Blue Seal Egg Maker Crumbles	2.76-	0.48				0.18		
Blue Seal Game Bird	0.88	0.71				0.18		
Blue Seal Lamb BT Pellets, Medicated	0.91	0.53				1.09	0.55ppm	
Blue Seal Llama Pellet	1.05	0.76				1.14		
<b>CARGILL, NUTRENA DIV.</b>								
Nutrena Horse Kwik Complete	1.15	0.7		59ppm	166ppm		0.6ppm	
Nutrena Life Design Complete (ABF)	1.05	0.86		31ppm	146ppm		1.24ppm	
Nutrena Triumph 12 Horse Pellets (ABF)	1.2	0.85		21ppm-	94ppm-		1.1ppm	
Nutrena Egg Producer	3.5	0.58						0.41
Nutrena Horse Kwik 12.5% Ration (ABF)	0.98	0.71		25ppm-	112ppm		1.1ppm	
Nutrena Life Design Prime 12 (ABF)	1.1	0.70		18ppm-	79ppm-		0.55ppm	
Nutrena Pig & Hog Feed (ABF)	0.63	0.67			65ppm		1.1ppm	0.16-
Nutrena Cracked Corn								
Nutrena Turkey/Gamebird Grower	0.79	1.05						0.15
Nutrena Top Lamb 16 Feed (ABF), No Added Copper	1.1	0.72						0.27
Nutrena Life Design Youth (ABF)	0.87	0.76		42ppm-	118ppm-		0.5ppm	
Nutrena Excel 16 Dairy Feed (ABF)	1.65+	0.98	1				0.53ppm	
Nutrena 18% Rabbit Pellets	0.95	0.66						0.19
Nutrena 16% Rabbit Pellets	1.1	0.74						0.21
Nutrena Life Design Complete (ABF)	1.2	0.82		44ppm	154ppm		1.58ppm	
Nutrena Horse Kwik Ration (ABF) with Roughage	1	0.66		27ppm-	131ppm		0.62ppm	



**Table 2. Micronutrient Analysis of Feed Samples.**

Manufacturer/Sample description	Ca	P	K	Cu	Zn	salt	Se	Na
Nutrena Turkey/Gamebird Grower	0.8	1						0.17
Nutrena Egg Producer	4	0.74						0.16
Nutrena 16% Rabbit Pellets	1.1	0.79						0.2
Nutrena Excel 16 Dairy Feed (ABF)	1.7+	0.84	0.89				0.79ppm	0.61
Nutrena Pig & Hog Feed (ABF)	1.2	0.78			141ppm		0.68ppm	0.14-
Nutrena Senior Horse Feed (ABF)	1.12	0.79		25ppm-	119ppm		0.98ppm	
Nutrena Triumph 12 Horse Pellets (ABF)	1.2	0.74		19ppm-	73ppm-		0.82ppm	
Nutrena Life Design Prime 12 (ABF)	1.25	0.63		34ppm	203ppm		0.83ppm	
Nutrena Meat Bird Grower	0.67	0.92						0.41+
Nutrena Top Lamb 16 (ABF)	1	0.76						0.26
Nutrena Life Design Complete (ABF)	1.1	0.84		30ppm-	134ppm		0.95ppm	
Nutrena Turkey/Gamebird Finisher	0.75	0.88						0.47+
Cargill Dairy 16%	1.46	0.95				1.17	0.69ppm	0.46
Cargill Pullet Grower with Amprol	1.24	0.67				0.45+		0.15
Cargill Layer A-22 M&M	2.90-	0.59				0.26+		0.10
Cargill Horse 14% Sprinter	1.53	1.05		18ppm-	127ppm			
Cargill Layer A-22 M&M	3.45	0.65				0.20		0.08
Cargill Special Mix	4.25	1.08				5.8+	1.17	2.35
Cargill Layer B-22 M&M	3.48	0.60				0.48+		0.19+
Nutrena Horse Kwik Ration (ABF) (With Roughage)	1.05	0.8		53ppm	183ppm		0.8ppm	
Nutrena Life Design Complete (ABF)	1.03	0.9		33ppm-	162ppm		0.8ppm	
Nutrena Triumph 12 Horse Pellets	1.01	0.75		43ppm	202ppm		0.8pp	
Nutrena Horse Kwik 12.5% Ration (ABF)	0.9	0.7		50ppm	161ppm		1ppm	
Nutrena Egg Producer Pellets (ABF)	4.6+	1						0.15
Nutrena Turkey/Gamebird Grower Crumbles (ABF)	0.82	1.05						0.19
Nutrena Pig & Hog Feed (ABF)	0.71	0.97			143ppm		0.9ppm	0.16-
Nutrena Life Design 12 (ABF)	0.9	0.9		26ppm-	168ppm		0.7ppm	
Nutrena Excel 16 Dairy Feed (ABF)	1.83+	0.85	1				0.6ppm	0.66
Nutrena Top Lamb 18 (B13.6) (ABF) Medicated	1.15	0.7					0.8ppm	0.23
Nutrena PRIZE Performance Plus (ABF)	1.3+	0.64		37ppm	168ppm		0.7ppm	
Nutrena Life Design Youth (ABF) Horse Feed	1.07	0.9		65ppm	222ppm		0.6ppm	
<b>HILLS PET NUTRITION, INC.</b>								
Hill's Science Diet Canine Maintenance 1-6 years	0.72	0.72						
<b>LUCENNE FARMS</b>								
Dengie Alfa-A	1.2-							
<b>PRO-PET, INC./NY</b>								
Big Red Producers Choice 18 Rabbit Pellets	0.85	0.82				0.84		
Muenster Perfect Balance Emu Grower 18%	2.35	1.19				0.53		0.21-
Muenster Perfect Balance Ratite Maintenance	2.06	0.91				0.74+		0.29
Big Red Rabbit Choice Rabbit Food	1.04	0.68				0.86		
Big Red Great Gravy Dog Food		0.54						
Big Red Nuggets Dog Food		0.71						
Li'l Red Original Flavor Cat Food		0.76						
<b>PURINA MILLS, INC.</b>								
Purina Duck Grower W/O	0.79	0.67						
Purina Equine Senior	0.66	0.75		58ppm	245ppm		0.3ppm	

**Table 2. Micronutrient Analysis of Feed Samples.**

Manufacturer/Sample description	Ca	P	K	Cu	Zn	salt	Se	Na
Purina Pure Pride 100	0.87	0.64		41ppm	178ppm		0.69ppm	
Purina Equine Adult Horse Feed	0.82	0.53		32ppm	130ppm		0.46ppm	
Purina Advanced Nutrition Rabbit Feed	0.95	0.54				0.5		
Purina Pure Pride 200	0.79	0.81		62ppm	240ppm		0.68ppm	
Purina Equine Junior Horse Feed	0.75	0.76		31ppm-	153ppm		0.52ppm	
Purina Game Bird Maintenance Chow	0.84	0.75				0.3		
Purina Pro-11 Breeder for Pigeons			1.26					
Purina Game Bird Flight Conditioner	1.04	1.02				0.4		
Purina Start & Grow MP 0.0125%	0.77	0.7						
Purina Turkey Starter MP 0.0125%	1.32	1.04				0.46		
Pro-Plan Lamb & Rice Formula	1.09	0.82						
Purina Wildlife Blend	1.1	0.73						
Purina Rabbit Chow	0.98	0.52						
Purina Layena Crumbles	3.9	0.68						
Purina Meow Mix	1.3	1.2						
Purina Hog Grower Chow OTC 50	0.7	0.69			155ppm	0.79	0.66ppm	
Purina Meat Builder	1.1	0.83						
Purina Coarse 14%	0.81	0.51	1				0.36ppm	
Purina Lamb Developer W/O	0.65	0.39					0.33ppm	
Purina Rabbit Chow Complete Blend	0.89	0.54						
Purina Milk Chow Special (R) 16% Coarse	0.63	0.81					0.74ppm	
<b>TIZCO, INC.</b>								
Tiz Whiz 12% Horse Feed	0.88	0.87		66ppm	136ppm	0.53	0.43ppm	
Tiz Whiz 12% Horse Feed for Horses 3 Years & Older	0.95	0.7			165ppm	0.43	0.4ppm	
<b>TRADE ONE INC.</b>								
Triple Crown Rice Bran	0.05	1.71	1.4-	7ppm				





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